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On the moduli spaces of principal F -bundles

In his work on the global Langlands' correspondence over a function fields, Drinfeld introduced moduli spaces of F -sheaves (which are sometimes called shtukas). Their importance is due to the fact that (as was shown by Drinfeld himself for $r=2$ and recently by Lafforgue in general) Langlands correspondence for $GL(r)$ can be realized in their cohomology. The aim of the talk is to generalize Drinfeld's construction and to construct certain spaces, which we will call moduli spaces of principal F -bundles, in whose cohomology Langlands' correspondence for general (at least split) reductive groups "should be realized". Also in some indirect way our spaces can be considered as some analogs of Shimura varieties.